

Section 8

ORAL HEALTH SURVEILLANCE SYSTEMS

Surveillance systems collect timely, accurate, representative data to track the status of populations. A comprehensive surveillance system allows use of these data to provide early warning of changing conditions. This can alert those involved with public health programs and policy formation and implementation that interventions or programs may be necessary to prevent increased disease levels and associated costs. Surveillance of oral health can be looked upon as occurring in three ways: as part of national overall health surveillance systems, as part of state-based surveillance systems that may focus on total health or other aspects of overall health and include an oral health component, and through national, state, or local data collection efforts focused solely or primarily on oral health.

Oral health is an integral part of overall health. As such, surveillance of oral health is frequently best accomplished as a component of an overall health surveillance system. There are a number of nationally representative surveillance efforts with an oral health component (Table 8.0.1) including:

- National Health and Nutrition Examination Surveys (NHANES)
- National Health Interview Survey (NHIS)
- Medical Expenditure Panel Survey – Household Component (MEPS-HC)
- Surveillance, Epidemiology, and End Results (SEER)
- National Natality Survey (NNS)
- National Hospital Ambulatory Medical Care Survey (NHAMCS)

Data with an emphasis on the ability to produce estimates for state and local levels are particularly important to improving oral health since oral health is often addressed through population-based programs at the state or local level. A number of surveillance efforts implemented at the state level have oral health components (Table 8.0.2). These include:

- Behavioral Risk Factor Surveillance System (BRFSS)—surveys adults aged 18 and older, included oral health questions in the core in 1999 and again in 2002 (providing nationally representative data collected at the state level), offers an optional module with further oral health questions, and allows state-added oral health questions.
- National Program of Cancer Registries (NPCR) – tracks oral and pharyngeal cancers among other cancers.
- National Vital Statistics System (NVSS) – records oral and craniofacial anomalies on birth certificates.
- Pregnancy Risk Assessment Monitoring System (PRAMS) – states may include questions about dental visits and problems.
- Water Fluoridation Reporting System (WFRS) – a tool for water fluoridation program management, which provides states with many reports, including an annual report that serves to track fluoridation status.

- Youth Risk Behavior Surveillance System (YRBSS) – survey of high school students, includes tobacco questions and a question about last dental visit.

A number of states also implement state or local surveys of oral health. Some are based on the Association of State and Territorial Dental Directors (ASTDD) Basic Screening Survey (BSS). States may modify the ASTDD BSS or components of any of the surveys described above in their own surveillance efforts. The ASTDD BSS is a survey with core questions and clinical examination items for three age groups: preschool, school age, and adult. It focuses on caries experience, untreated tooth decay, and sealants, with age-specific questions on early childhood caries and total tooth loss. Additional questions or clinical exam items can be added to meet state information needs. Data are not currently available on the number of states with independent oral health surveillance systems.

Table 8.0.1. Federal, nationally representative surveillance systems with an oral health component

Survey Title	Agency*	Most Recent Data	Participant Age Range	Oral Health Variables	URL
NHANES III	NCHS, CDC	1988-1994	2 months +	clinical dental exam outcomes, tobacco, oral hygiene, denture ownership and use, edentulism, dental visits, perceived oral health status, medical history	http://www.cdc.gov/nchs/nhanes.htm
NHIS	NCHS, CDC	1999	All ages	access to dental care, dental insurance, eating, edentulism, fluoride, frequency of dental visits, missing teeth, oral cancer, orofacial pain, sealants, tobacco	http://www.cdc.gov/nchs/nhis.htm
MEPS-HC	AHRQ	Depends on file	All ages	dental care utilization, dental services received, eating, edentulism, medications, orofacial pain, reason for last dental visit, soft tissue lesions, traumatic injuries	http://www.meps.ahrq.gov
SEER	NCI, NIH	1999	All ages	oral cancer	http://seer.cancer.gov/
NNS	NCHS, CDC	1999	New births	craniofacial anomalies	http://www.cdc.gov/nchs/about/major/nhsd.htm
NHAMCS	NCHS, CDC	1999	All ages	emergency room visits including diagnoses, dental services received, types of health care providers seen, satisfaction with care	http://www.cdc.gov/nchs/about/major/ahcd/ahcd1.htm

*NCHS, CDC = National Center for Health Statistics, Centers for Disease Control and Prevention

AHRQ = Agency for Healthcare Research and Quality

NCI, NIH = National Cancer Institute, National Institutes of Health

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Table 8.0.2. State-based health surveillance systems with an oral health component

Surveillance System	Source*	Most Recent Data	Participant Age Range	Geographical Scope	Oral Health Variables	URL
BRFSS	NCCDPHP, CDC	2000	18 years and older	<p>The BRFSS consists of core components, optional modules, and state-added questions. The core components are administered in all states. Each state decides whether to include optional modules in its state data collection. States can also add additional questions relevant to their needs.</p> <p>2001 Oral health optional module: Arizona, Idaho, Iowa, Missouri, Nebraska, New Hampshire, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Carolina, Washington, Wisconsin, Virginia</p> <p>2001 Oral health state-added questions: Kansas, Massachusetts, Ohio, South Dakota, Utah, Washington</p>	<p>2001 Core (all states): tobacco use Oral health optional module: dental care, dental insurance, edentulism, last dental visit, reason for not visiting a dentist</p> <p>Note: In the 2002 version, oral health will be included in the core of the questionnaire administered in all states.</p>	http://www.cdc.gov/nccddphp/brfss
NPCR	NCCDPHP, CDC	2001	All ages	The District of Columbia, 45 states, and 3 territories currently receive funding related to participation in the NPCR. Forty-five programs receive funding to enhance current statewide central cancer registries, and four to plan registries. The five remaining states (Connecticut, Hawaii, Iowa, New Mexico, and Utah) are funded through the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program.	Oral and pharyngeal cancer	http://www.cdc.gov/cancer/npcr
NVSS	NCHS, CDC	2000	Nativity-new births	Nationally representative	Oral and craniofacial anomalies	http://www.cdc.gov/nchs/nvss.htm

Table 8.0.2. State-based health surveillance systems with an oral health component (continued)

Surveillance System	Source*	Most Recent Data	Participant Age Range	Geographical Scope	Oral Health Variables	URL
PRAMS	NCCDPHP, CDC	1998	Pregnant women	2000 Alabama, Alaska, Arkansas, Colorado, Delaware, Florida, Georgia, Hawaii, Illinois, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Montana, Nebraska, New Jersey, New Mexico, New York, New York City, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Texas, Rhode Island, South Carolina, Utah, Vermont, Washington, West Virginia	All states: smoking Some states: dental visit, dental problems, dental care education New York City: preventive care, dental problems, visit to a dentist, access to care, dental care education	http://www.cdc.gov/nccdphp/drh/srv_prams.htm
WFRS	NCCDPHP, CDC	2000	Not applicable	Nationally representative	Fluoridation	http://www.cdc.gov/oralhealth/datasystems
YRBSS	NCCDPHP, CDC	1999	Grades 9-12	Nationally representative	Cigarettes, smokeless tobacco, tobacco, smoking	http://www.cdc.gov/nccdphp/dash/yrbss

*NCHS, CDC= National Center for Health Statistics, Centers for Disease Control and Prevention

NCCDPHP, CDC = National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

8.1 National Oral Health Surveillance System (NOHSS)

The National Oral Health Surveillance System (NOHSS), a publicly available web-based query system for oral health data (<http://www.cdc.gov/nohss/>), was released in January 2001. A collaborative effort of the Division of Oral Health of the Centers for Disease Control and Prevention (DOH/CDC) and the Association of State and Territorial Dental Directors (ASTDD), the NOHSS contains information on a number of oral health indicators, synopses of state dental public health programs (focusing on demographics, workforce, infrastructure, and program offerings and participation), a glossary, list of data sources, and links to related sites.

Oral health indicators currently available include:

- Dental visits
- Teeth cleaning
- Complete tooth loss
- Fluoridation status

Data on the following indicators will be added as new state and national data become available:

- Caries experience
- Untreated caries
- Dental sealants
- Oral and pharyngeal cancer

Depending on the specific indicator, data can be viewed for the nation as a whole or on a state basis with demographic breakdowns (including confidence intervals), and data from a particular source can be viewed for all states. Graphical presentations are also available.

The NOHSS currently emphasizes state-based data. Data for dental visits (ages 2-17 years and 18 years and older) and complete tooth loss (ages 65 years and older) are from NHIS and BRFSS. Data on teeth cleaning (ages 18 years and older) are from BRFSS. Fluoridation status for the 50 states and the District of Columbia is from the Water Fluoridation Reporting System (2000). Data from the 1992 Fluoridation Census are shown for comparison.

